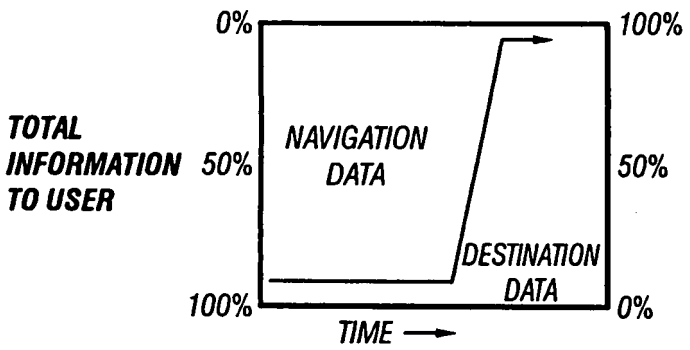
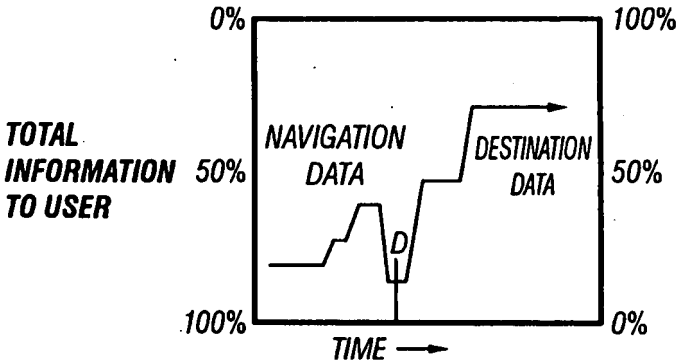


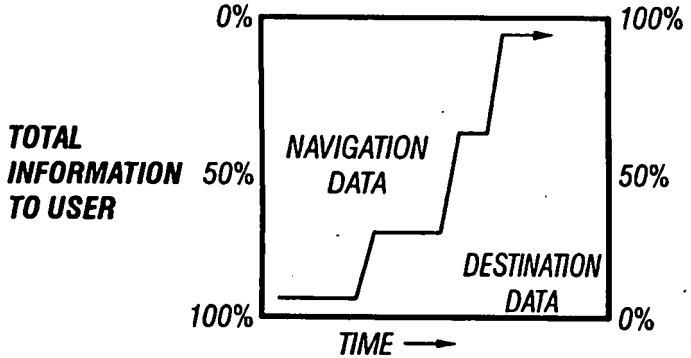
COMMAND-DRIVEN INTERFACES

FIG. 1A



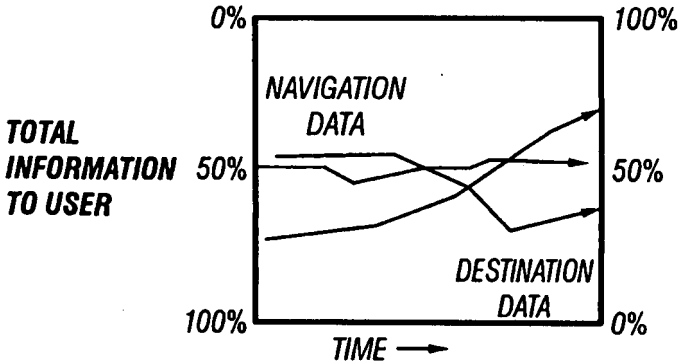
MENU-DRIVEN INTERFACES

FIG. 1B



GUI-DRIVEN INTERFACES

FIG. 1C



CYBERSPACE-DRIVEN INTERFACES

FIG. 1D

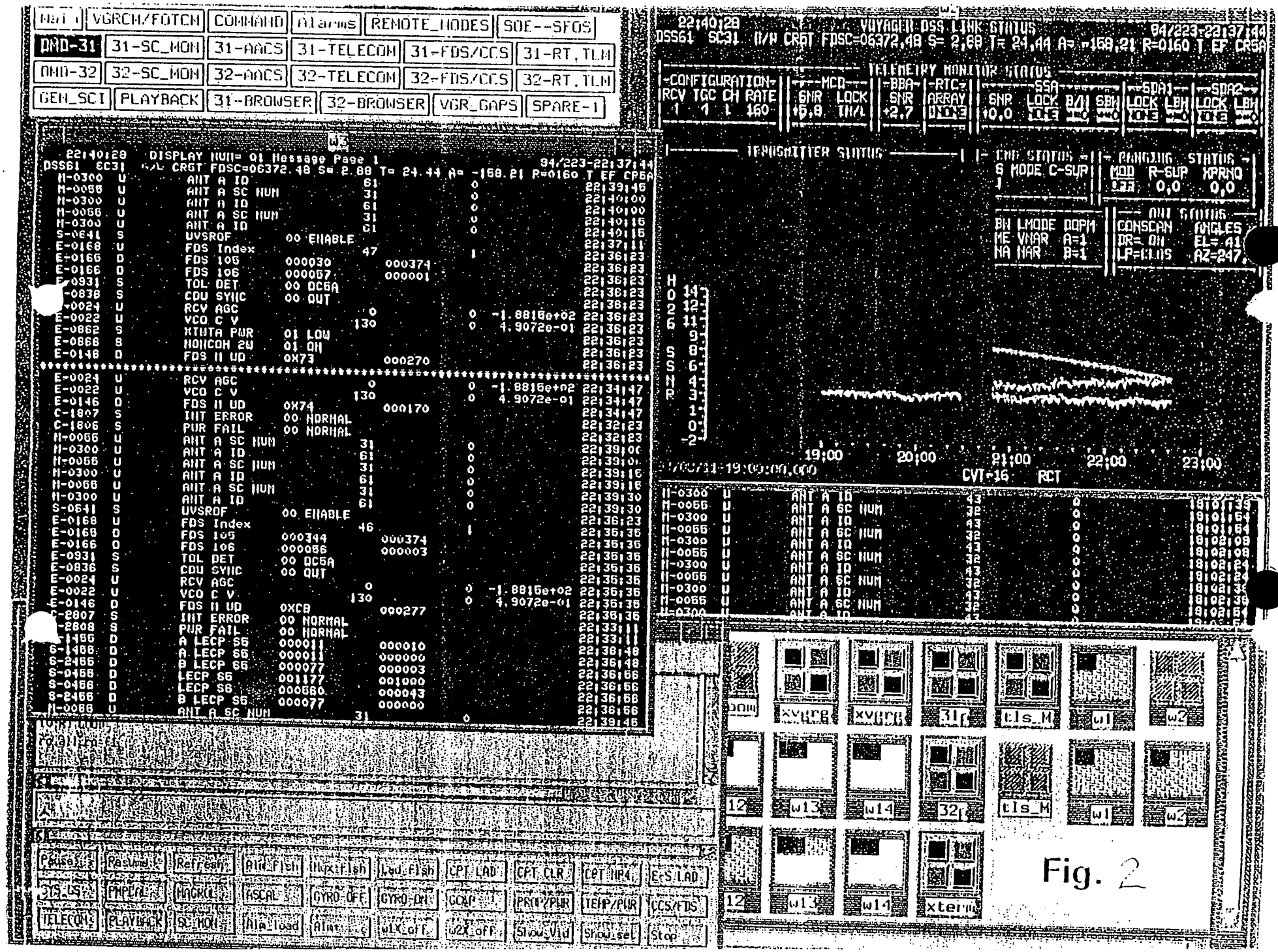

MAT
VGRCM/FDTCN
COMMAND
Alarms
REMOTE_NODES
SOE--SFOS
CMD-31
31-SC_MON
31-AACS
31-TELECOM
31-FDS/CCS
31-RT,TLM
CMD-32
32-SC_MON
32-AACS
32-TELECOM
32-FDS/CCS
32-RT,TLM
GEN_SCI
PLAYBACK
31-BROWSER
32-BROWSER
VGR_GAPS
SPARE-1
W3
22:40:28 DISPLAY NUM= 01 Message Page 1 94/223-22:37:44
DSS61 SC31 M/A CRGT FDSC=06372.48 S= 2.88 T= 24.44 A= -168.21 R=0160 T EF CR6A
M-0300 U ANT A ID 61 0 22:39:46
M-0066 U ANT A SC NUM 31 0 22:40:00
M-0300 U ANT A ID 61 0 22:40:00
M-0066 U ANT A SC NUM 31 0 22:40:16
M-0300 U ANT A ID 61 0 22:40:16
S-0641 S UVSROF 00 ENABLE 22:37:11
E-0168 U FDS Index 47 1 22:36:23
E-0166 D FDS 105 000030 000374 22:36:23
E-0166 D FDS 106 000057 000001 22:36:23
E-0931 S TOL DET 00 DC6A 22:36:23
E-0838 S CDU SYNC 00 OUT 22:36:23
E-0024 U RCV AGC 22:36:23
E-0022 U VCO C V 0 0 -1.8816e+02 22:36:23
130 0 4.9072e-01
E-0862 S XTWTA PWR 01 LOW 22:36:23
E-0868 S NONCOH 2W 01 ON 22:36:23
E-0148 D FDS N UD 0X73 000270 22:36:23
E-0024 U RCV AGC 22:34:47
E-0022 U VCO C V 0 0 -1.8816e+02 22:34:47
130 0 4.9072e-01
E-0146 D FDS N UD 0X74 000170 22:34:47
C-1807 S INT ERROR 00 NORMAL 22:34:47
C-1806 S PWR FAIL 00 NORMAL 22:32:23
M-0066 U ANT A SC NUM 31 22:32:23
M-0300 U ANT A ID 61 0 22:39:00
M-0066 U ANT A SC NUM 31 0 22:39:01
M-0300 U ANT A ID 61 0 22:39:16
M-0066 U ANT A SC NUM 31 0 22:39:16
M-0300 U ANT A ID 61 0 22:39:30
S-0641 S UVSROF 00 ENABLE 22:39:30
E-0168 U FDS Index 46 1 22:36:23
E-0166 D FDS 105 000344 000374 22:36:36
E-0166 D FDS 106 000086 000003 22:36:36
E-0931 S TOL DET 00 DC6A 22:36:36
E-0838 S CDU SYNC 00 OUT 22:36:36
E-0024 U RCV AGC 22:36:36
E-0022 U VCO C V 0 0 -1.8816e+02 22:36:36
130 0 4.9072e-01
E-0146 D FDS N UD 0XCB 000277 22:36:36
C-1807 S INT ERROR 00 NORMAL 22:36:36
C-1808 S PWR FAIL 00 NORMAL 22:33:11
S-1466 D A LECP S6 000011 000010 22:33:11
S-1468 D A LECP S6 000011 000000 22:36:48
S-2466 D B LECP S6 000077 000003 22:36:48
S-0468 D LECP S6 001177 001000 22:36:66
S-0468 D LECP S8 000680 000043 22:36:66
S-2466 D B LECP S6 000077 000000 22:36:68
M-0066 U ANT A SC NUM 31 0 22:39:46
Pause
Resume
Refresh
Alm Flsh
Wrn Flsh
Lod Flsh
CPT LAD
CPT CLR
CPT MP4
E-S LAD
SYS_US
CMPLX
MACRO
ASCAL
GYRO OFF
GYRO ON
GCAP
PROP/PWR
TEMP/PWR
CCS/FDS
TELECOM
PLAYBACK
SC MON
Alm Load
Alm
wlk off
w2k off
Show Vid
Show Set
Stop
22:40:28 VOYAGER DSS LINK STATUS 94/223-22:37:44
DSS61 SC31 M/A CRGT FDSC=06372.48 S= 2.88 T= 24.44 A= -168.21 R=0160 T EF CR6A
TELEMETRY MONITOR STATUS
CONFIGURATION
RCV TGC CH RATE
1 1 1 160
MCD
SNR LOCK
+5.8 TM/1
BBA
SNR
+2.7
RTC
ARRAY
UNDEF
SSA
SNR LOCK B/1 SBM
+0.0 LOCK
SDA1
LOCK LBM
LOCK
SDA2
LOCK LBM
LOCK
TRANSMITTER STATUS
CMD STATUS
S MODE C-SUP
1
RANGING STATUS
MOD R-SUP XPRNO
OFF 0.0 0.0
BW LMODE DOPM
ME VNAR A=1
NA NAR B=1
ANT STATUS
CONSCAN ANGLES
DR= ON EL= 41
LP=CLOS AZ=247
SNR
19:00
20:00
21:00
22:00
23:00
CVT=16 RCT
M-0300 U ANT A ID 43 0 18:01:39
M-0066 U ANT A SC NUM 32 0 18:01:54
M-0300 U ANT A ID 43 0 18:01:54
M-0066 U ANT A SC NUM 32 0 18:02:09
M-0300 U ANT A ID 43 0 18:02:09
M-0066 U ANT A SC NUM 32 0 18:02:24
M-0300 U ANT A ID 43 0 18:02:24
M-0066 U ANT A SC NUM 32 0 18:02:39
M-0300 U ANT A ID 43 0 18:02:39
M-0066 U ANT A SC NUM 32 0 18:02:54
xvtrcb
xvtrcb
31r
tls_M
w1
w2
w13
w14
32r
xterm

Fig. 2

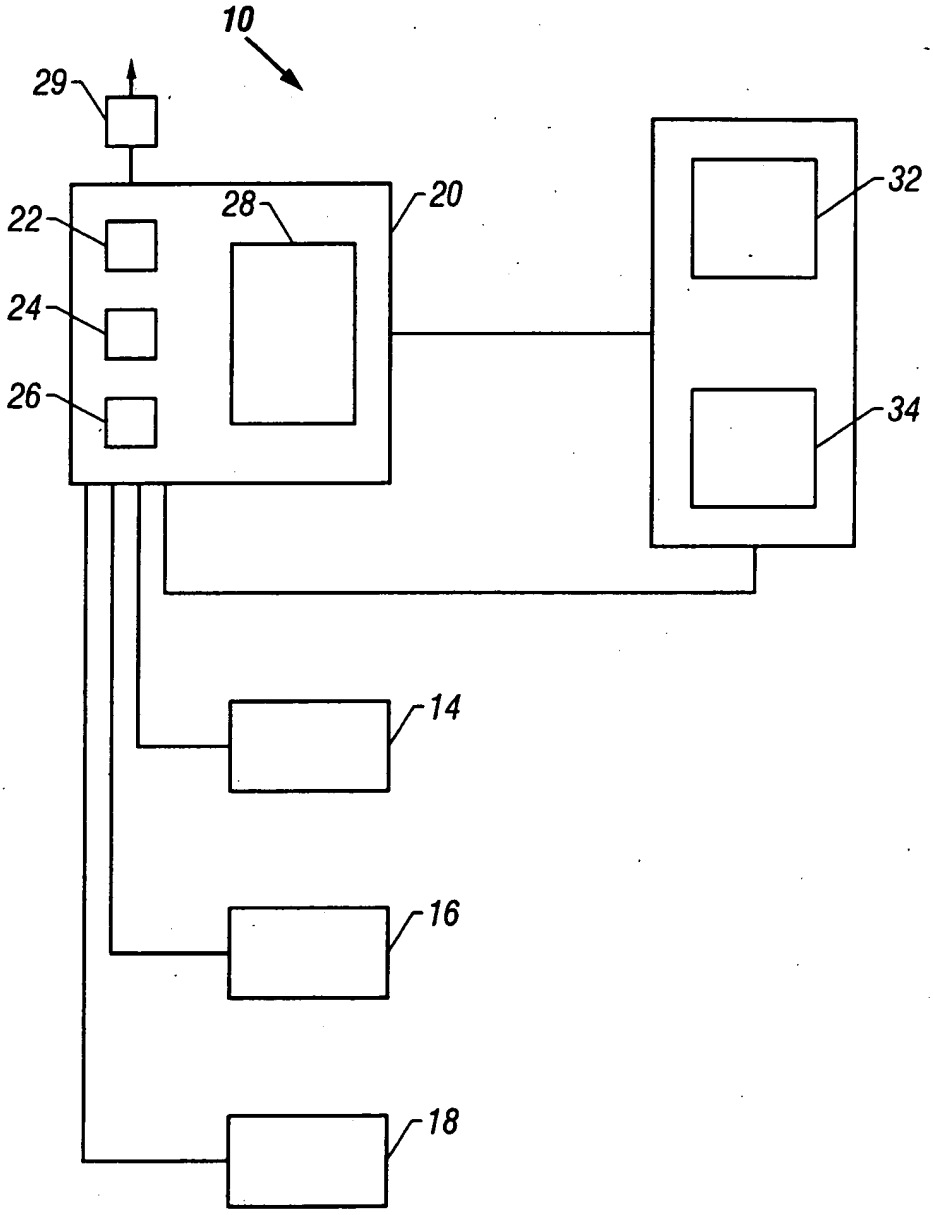


FIG. 3

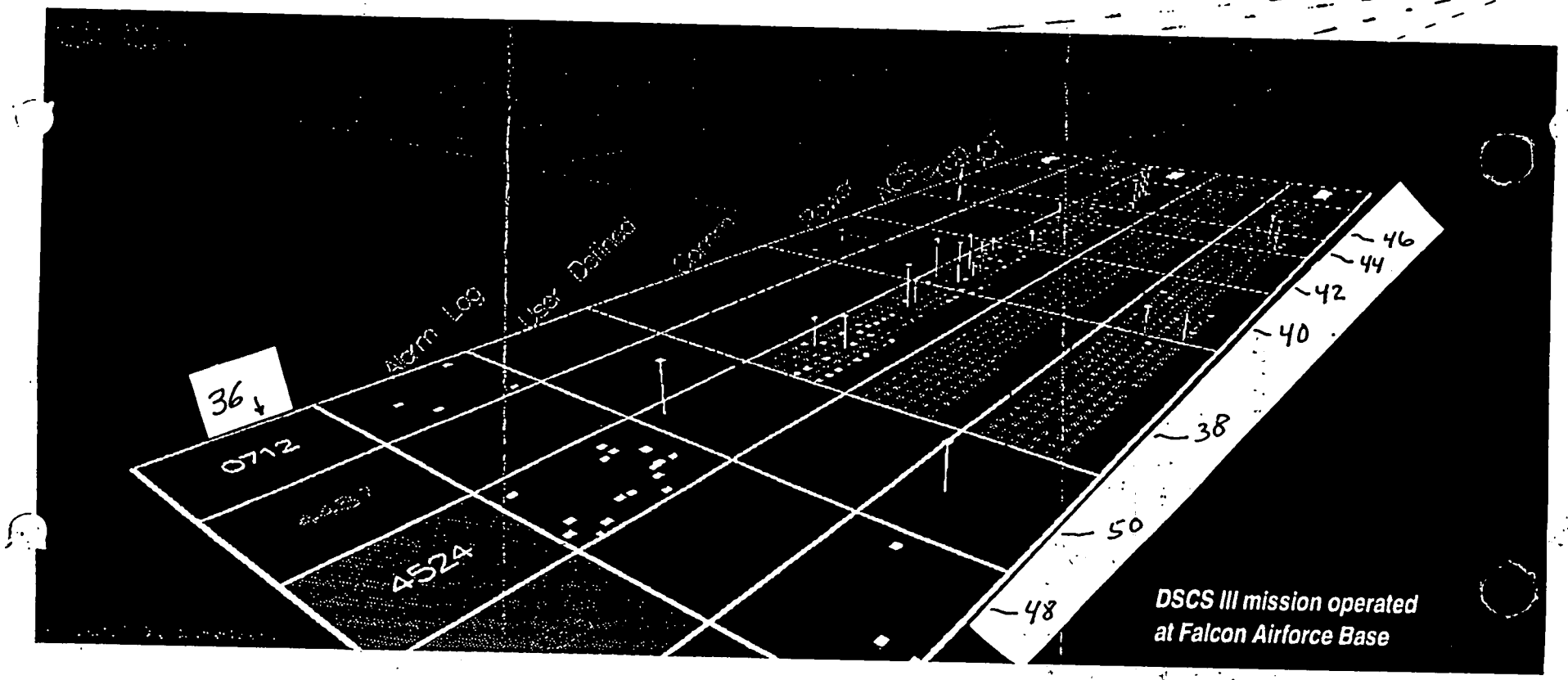

36
0712
4524
~46
~44
~42
~40
~38
~50
~48
DSCS III mission operated
at Falcon Airforce Base

Fig. 4

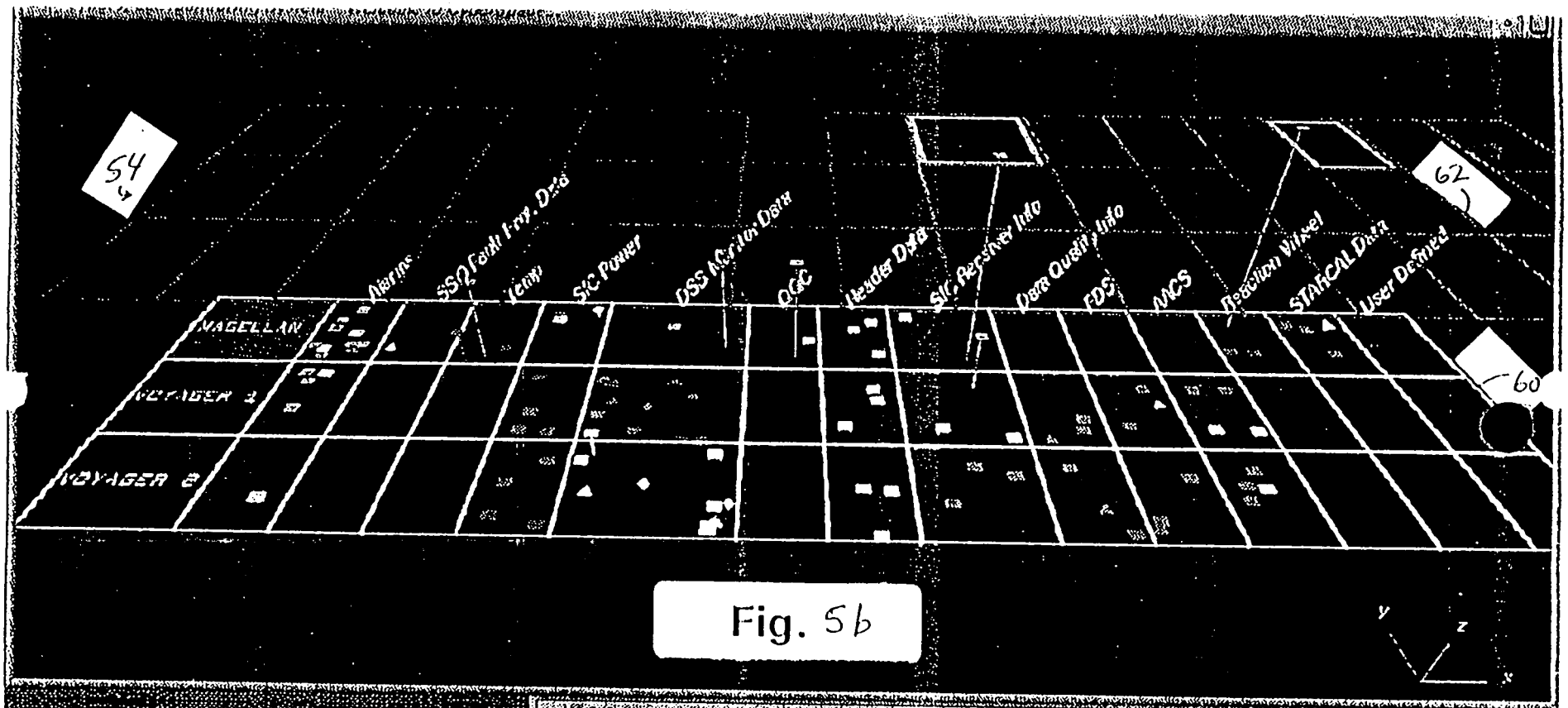

54
Alarms
SSQ Fault Proc. Data
Telem
S/C Power
DSS Monitor Data
QAC
Header Data
S/C Receiver Info
Data Quality Info
FDS
ANCS
Reaction Wheel
STARCAL Data
User Defined
62
60
MAGELLAN
VOYAGER 1
VOYAGER 2
y
z
x

Fig. 5b

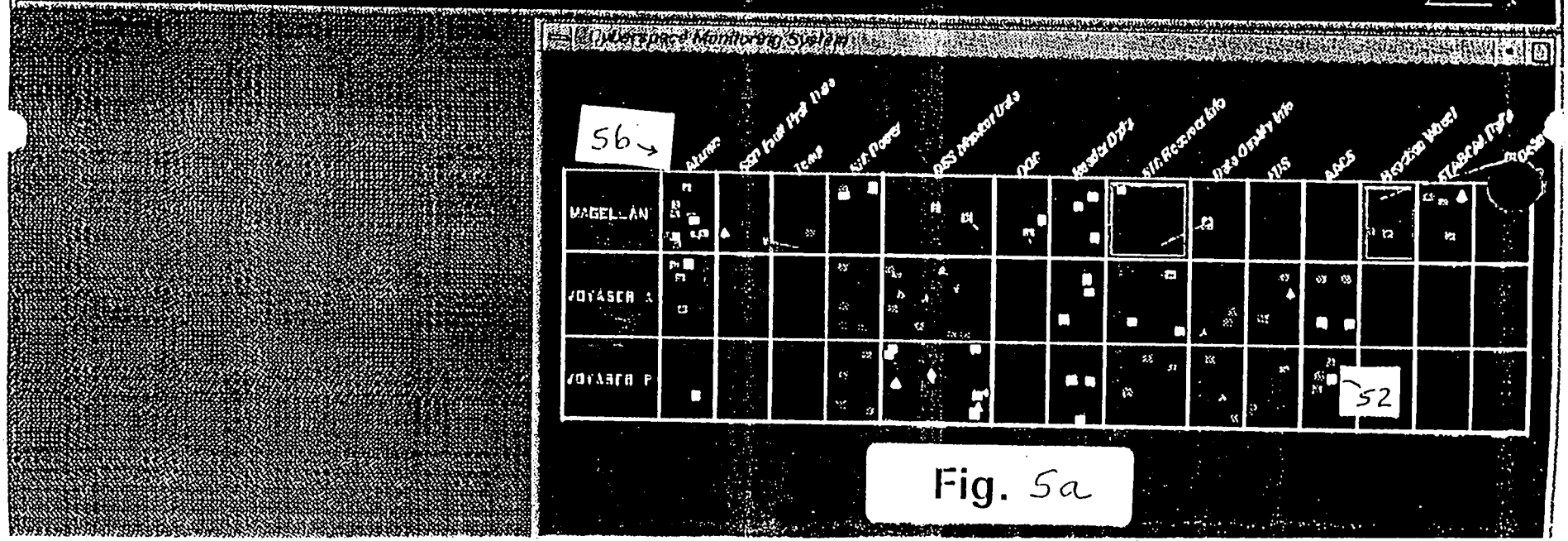

56
Alarms
SSQ Fault Proc. Data
Telem
S/C Power
DSS Monitor Data
QAC
Header Data
S/C Receiver Info
Data Quality Info
FDS
ANCS
Reaction Wheel
STARCAL Data
User Defined
MAGELLAN
VOYAGER 1
VOYAGER 2
52

Fig. 5a

58

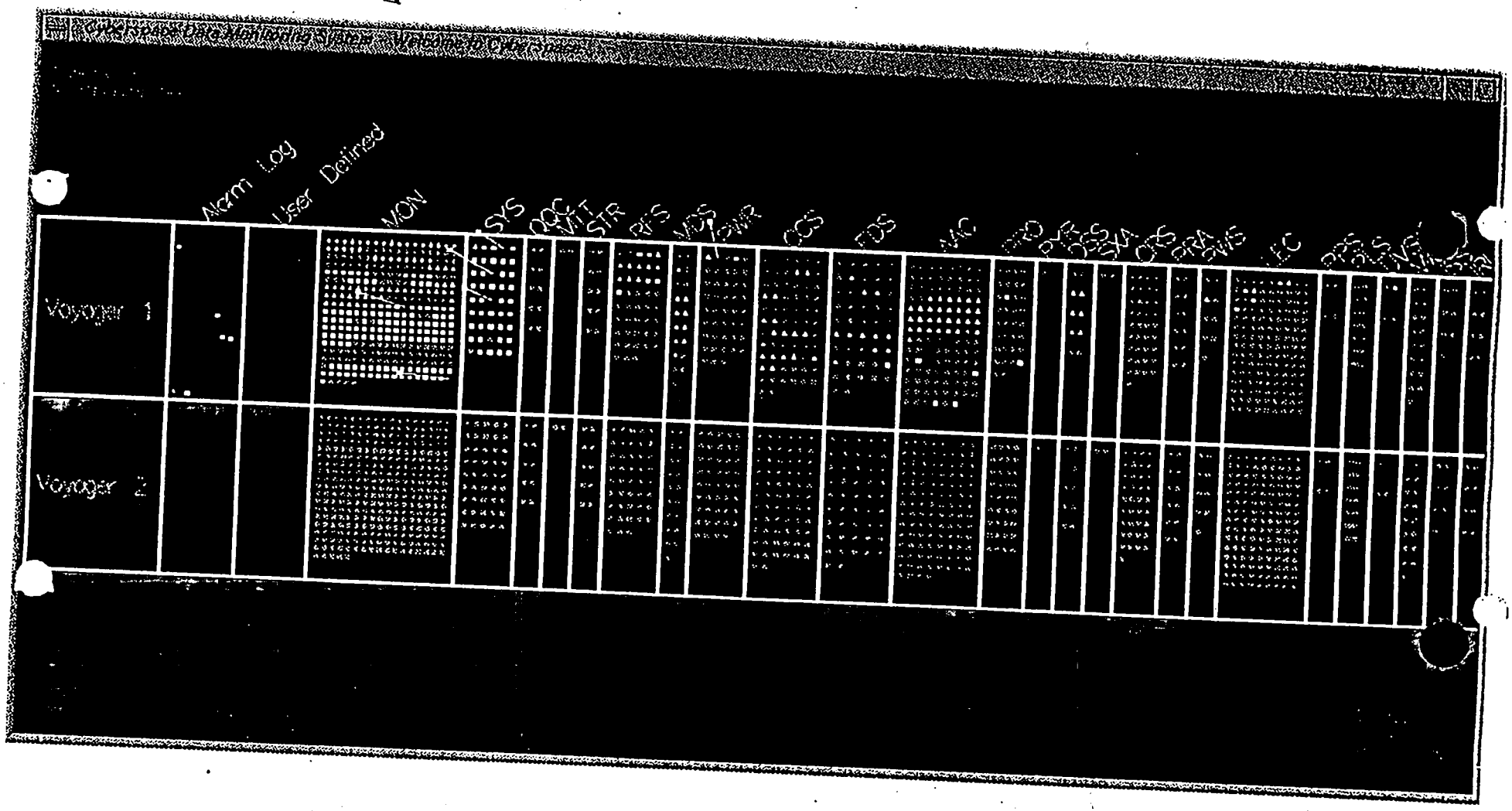
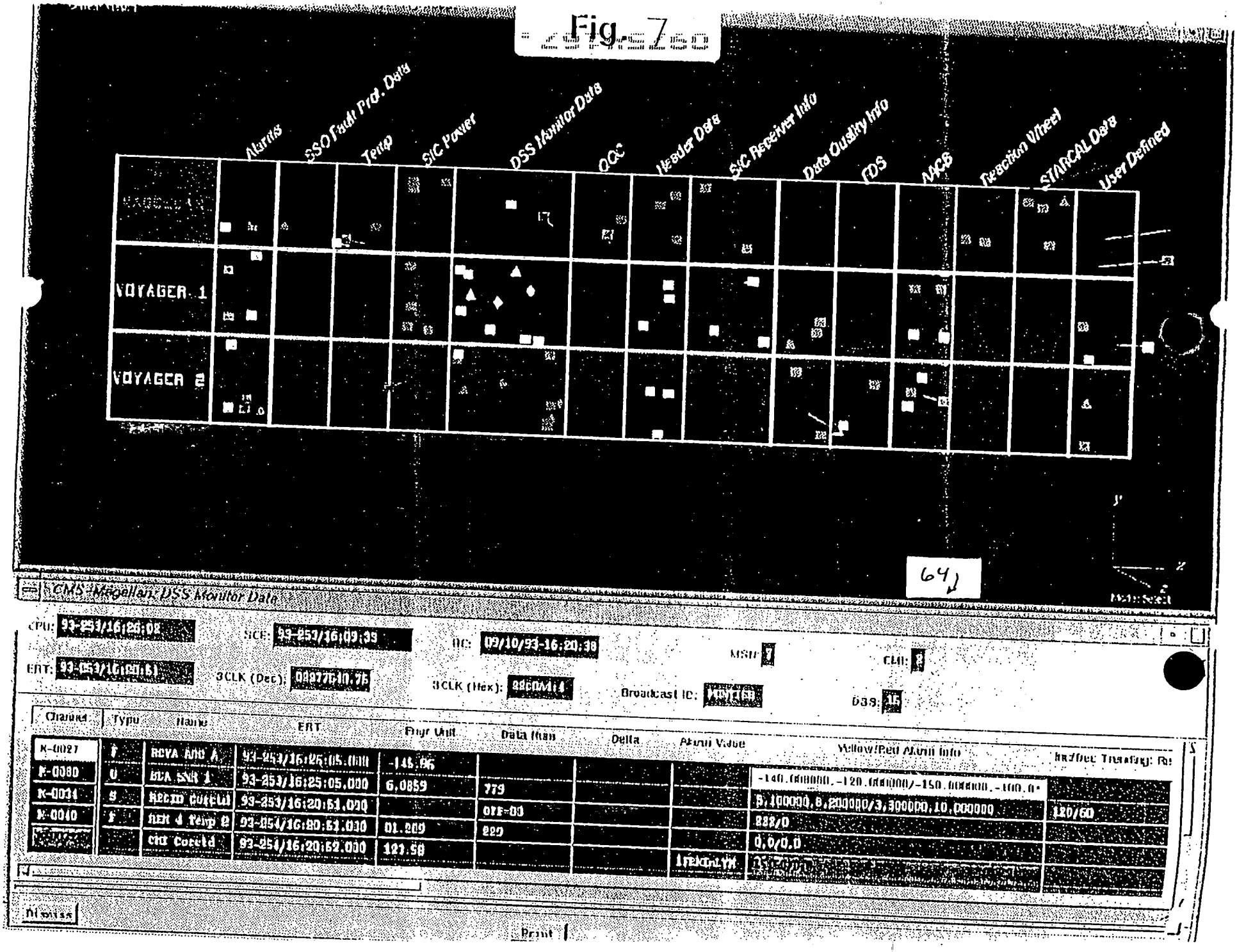


Fig. 6

Fig. 7


Alarms
SSO Fault Prot. Data
Temp
SIC Power
DSS Monitor Data
QOC
Header Data
SIC Receiver Info
Data Quality Info
FDS
AACS
Reaction Wheel
STARCAL Data
User Defined
VOYAGER 1
VOYAGER 2
64
CMS Magellan: DSS Monitor Data
CPU: 93-253/16:26:02
SCE: 93-253/16:09:39
RC: 09/10/93-16:20:38
MSG: 7
CHI: 8
ERT: 93-253/16:00:53
SCLK (Dec): 0887761076
SCLK (Hex): 34E0AD34
Broadcast ID: 255
639: 15
Channel
Type
Name
ERT
Engr Unit
Data Num
Delta
Alarm Value
Yellow/Red Alarm Info
K-0027
K-0030
K-0034
K-0040
RCVA AND A
RCA SNR 1
Recvd Count
Rcvr 4 Temp 2
93-253/16:26:05.000
93-253/16:25:05.000
93-253/16:20:51.000
93-254/16:00:51.000
93-254/16:20:52.000
-148.96
6.0859
01.209
121.58
779
222
-140.000000,-120.000000/-150.000000,-100.0
0.100000,0.200000/3.300000,10.000000
888/0
0.0/0.0
Dismiss
Print

64

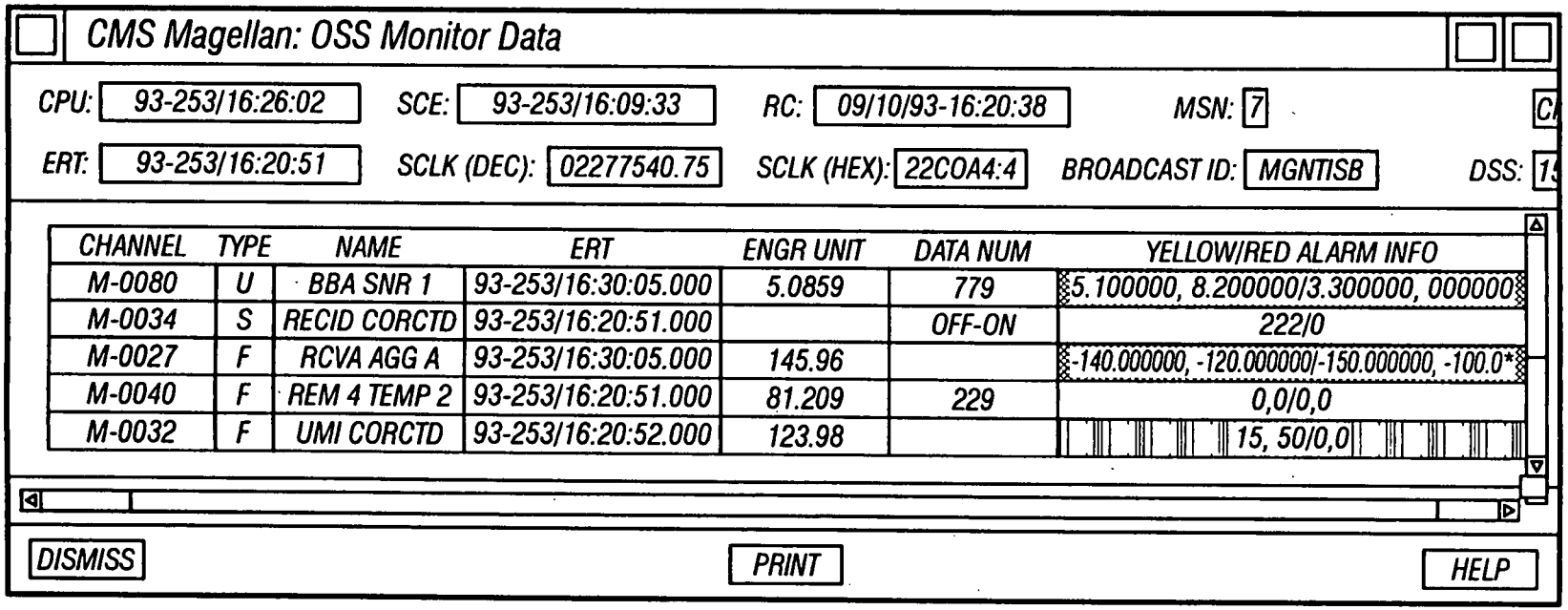

CMS Magellan: OSS Monitor Data
CPU: 93-253/16:26:02
SCE: 93-253/16:09:33
RC: 09/10/93-16:20:38
MSN: 7
ERT: 93-253/16:20:51
SCLK (DEC): 02277540.75
SCLK (HEX): 22C0A4:4
BROADCAST ID: MGNTISB
DSS:
CHANNEL TYPE NAME ERT ENGR UNIT DATA NUM YELLOW/RED ALARM INFO
M-0080 U BBA SNR 1 93-253/16:30:05.000 5.0859 779 5.100000, 8.200000/3.300000, 000000
M-0034 S RECID CORCTD 93-253/16:20:51.000 OFF-ON 222/0
M-0027 F RCVA AGG A 93-253/16:30:05.000 145.96 -140.000000, -120.000000/-150.000000, -100.0*
M-0040 F REM 4 TEMP 2 93-253/16:20:51.000 81.209 229 0,0/0,0
M-0032 F UMI CORCTD 93-253/16:20:52.000 123.98 15, 50/0,0
DISMISS
PRINT
HELP

FIG. 8

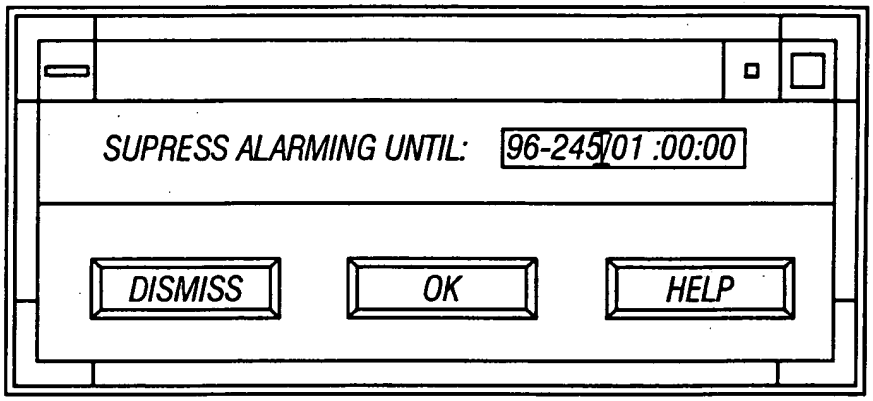


FIG. 9

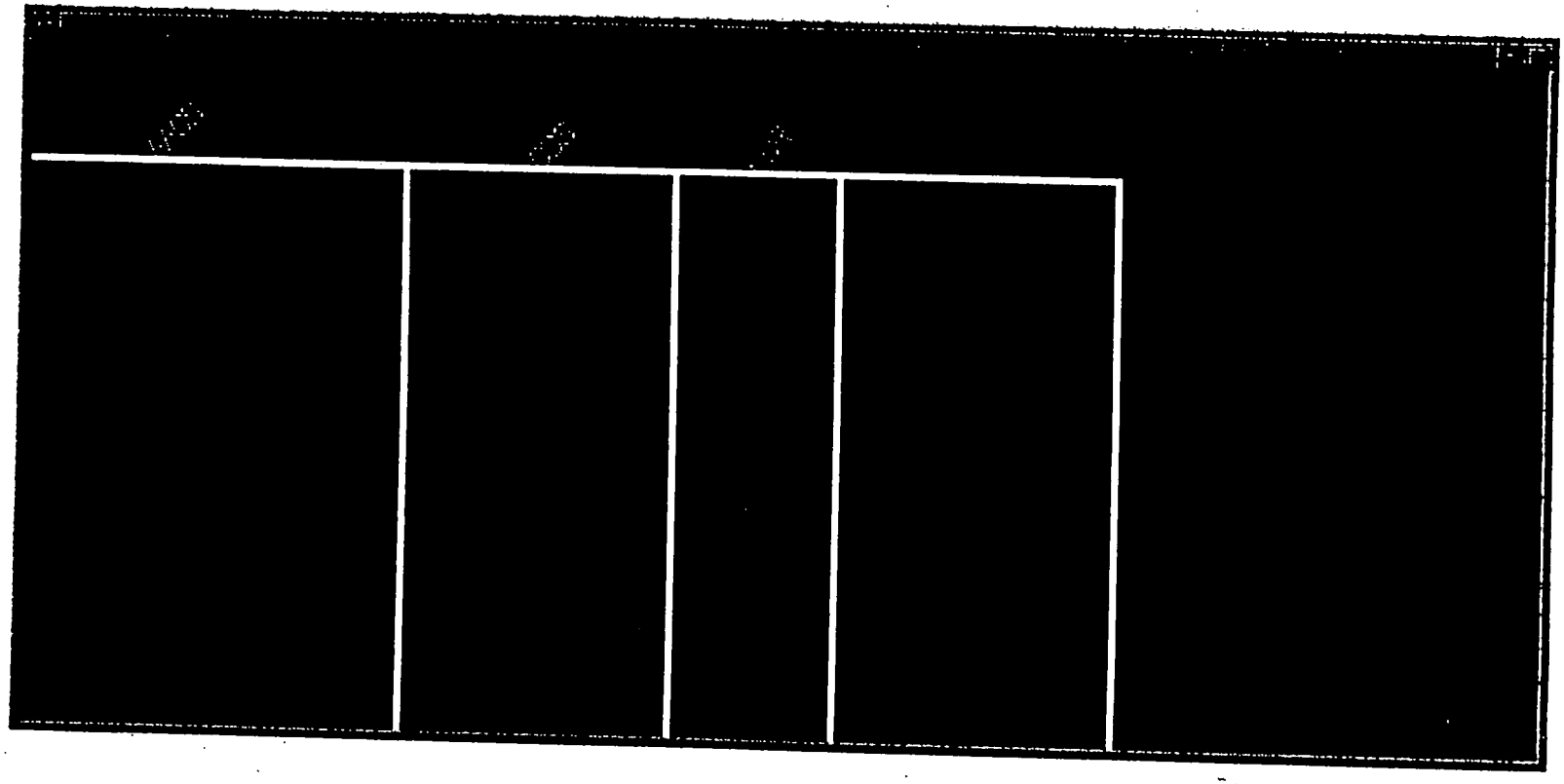


Fig. 10

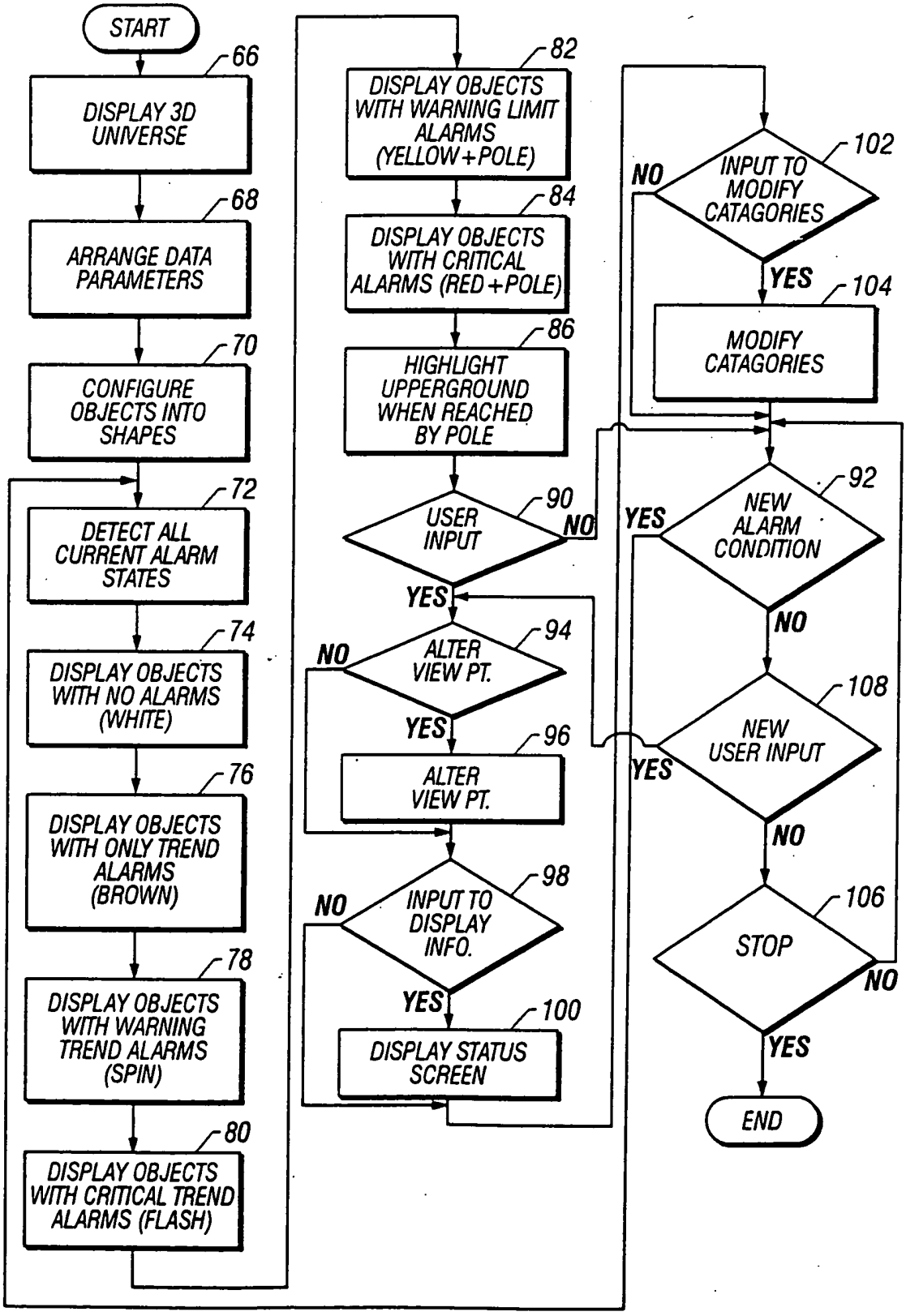

START
66
DISPLAY 3D UNIVERSE
68
ARRANGE DATA PARAMETERS
70
CONFIGURE OBJECTS INTO SHAPES
72
DETECT ALL CURRENT ALARM STATES
74
DISPLAY OBJECTS WITH NO ALARMS (WHITE)
76
DISPLAY OBJECTS WITH ONLY TREND ALARMS (BROWN)
78
DISPLAY OBJECTS WITH WARNING TREND ALARMS (SPIN)
80
DISPLAY OBJECTS WITH CRITICAL TREND ALARMS (FLASH)
82
DISPLAY OBJECTS WITH WARNING LIMIT ALARMS (YELLOW+POLE)
84
DISPLAY OBJECTS WITH CRITICAL ALARMS (RED+POLE)
86
HIGHLIGHT UPPERGROUND WHEN REACHED BY POLE
90
USER INPUT
NO
YES
94
ALTER VIEW PT.
NO
YES
96
ALTER VIEW PT.
98
INPUT TO DISPLAY INFO.
NO
YES
100
DISPLAY STATUS SCREEN
102
INPUT TO MODIFY CATAGORIES
NO
YES
104
MODIFY CATAGORIES
92
NEW ALARM CONDITION
YES
NO
108
NEW USER INPUT
YES
NO
106
STOP
NO
YES
END

FIG. 11